

# SurfBeam® 2 Residential Satellite Terminal

Fast, Proven Broadband Internet Access Over Satellite



The SurfBeam® 2 system delivers a quantum leap in affordable broadband Internet access via satellite. This next-generation satellite terminal builds on the success that made ViaSat SurfBeam the product of choice for WildBlue, the world's fastest-growing satellite broadband service. With nearly a million terminals delivered and installed around the globe, only ViaSat has proven market acceptance of Ka-band performance, cost, and capacity for satellite broadband services.

## HIGH-PERFORMANCE, COST-EFFICIENT INTERNET ACCESS

The complete SurfBeam 2 terminal includes an attractive indoor unit (IDU) similar to a typical cable or DSL modem, and an unobtrusive outdoor unit (ODU) similar to a dish for satellite television reception. The terminal enables fast web browsing at DSL-like speeds and supports video streaming, file sharing, and bandwidth-intensive Internet applications. It is capable of delivering downstream rates up to 40 Mbps and upstream rates up to 10 Mbps, and the network operator can define lower classes of service using provisioning tools to configure the terminal for lower downstream and upstream speeds.

The IDU has an embedded acceleration client that works with acceleration servers in the gateway to provide a faster, more responsive user experience. The unit integrates seamlessly into any home-based network via a standard Ethernet connection. The ODU includes a satellite reflector and feed, transmit and receive electronics, and a mounting kit, and is available with either pole-mount or universal wall mount.

Incorporating advanced new technologies, the highly integrated SurfBeam 2 residential satellite terminal sets a new standard for performance and reliability. High-volume production ensures flexible product delivery schedules and the lowest possible volume pricing.

## EASY INSTALLATION AND OPERATION

The compact SurfBeam 2 satellite terminal was designed for a quick and reliable professional installation.

The terminal is part of a complete system that also includes an innovative Satellite Modem Termination System (SMTS) gateway and Network Management Systems (NMS) that facilitate subscriber management with features such as automated service provisioning, diagnostics, and customer support.

## TERMINAL AT-A-GLANCE

- » Always-on high-speed connectivity
- » Sophisticated quality of service (QoS)
- » Built-in TCP and web acceleration
- » Built-in security against theft-of-service and theft-of-subscriber
- » Gigabit Ethernet CPE interface
- » Web GUI local management and SNMP-based remote management and control
- » Adaptive coding and modulation (ACM) on the forward link—optimized network capacity
- » Automatic power control and rate adaptation on the return link—high availability during fades

## APPLICATIONS

- » High-speed Internet access
- » Video and Voice-over-IP
- » High-speed file transfer
- » Email
- » Web browsing



## INDOOR UNIT (IDU)

### FORWARD CHANNEL

#### Modulation/Coding

- » 16-APSK Rate 2/3, 3/4, 4/5, 5/6, 8/9
- » 8PSK Rate 3/5, 2/3, 3/4, 5/6
- » QPSK Rate 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
- » Adaptive Coding & Modulation

**Symbol Rate:** 10 - 52 Msps

### RETURN CHANNEL

#### Modulation/Coding:

- » 8PSK Rate 7/12, 2/3, 3/4
- » QPSK Rate 3/8, 1/2, 5/8, 3/4
- » BPSK Rate 1/2
- » Automatic power control and rate adaptation

**Symbol Rate:** 625, 1250, 2500, 5000 and 10000 Ksps

### USER SPEEDS

**Forward Channel:** Operator configurable up to 40 Mbps

**Return Channel:** Operator configurable up to 10 Mbps

### MANAGEMENT

Web GUI local management and SNMP-based remote management and control

### NETWORKING

#### IP Internetworking

- » Transparent TCP and HTTP acceleration
- » Packet classification and filtering
- » Per-flow queuing

### POWER SUPPLY

- » 100-240 VAC; 50V

### INDOOR ENVIRONMENT

**Operational:** 0° to +40° C

**Storage:** -35° to +65° C

**Humidity:** 0 to 95% (non-condensing)

**Altitude:** 3000 m

**Shock and Vibration:** Per ISTA, July 2000, Procedure 1A

### REGULATORY

**Safety:** UL 60950, CE, IEC 60950, EN 60950, CB Scheme

**EMC:** FCC part 15 class B, CE, IEC 61000, EN 55022, EN 61000

**RoHS:** Compliant to RoHS Directive 2002/95/EC

**REACH:** Compliant to REACH Directive

### PHYSICAL

**Status Indicators:** Power; Satellite Acquisition; Activity; Fault

**Size:** 23 x 23 x 3.8 cm

**Weight:** 0.6 kg (1.3 lbs)

### INTERFACES

**CPE:** IEEE 802.3, 10/100/1000 BaseT, RJ-45 connector

**Expansion:** USB 2.0, type A connector

## KA-BAND OUTDOOR UNIT (ODU)

**Input Frequency:** 18.3 - 20.2 GHz

**Output Frequency:** 28.1 - 30.0 GHz

**Nominal EIRP:** 48.4 dBW

**Nominal G/T:** 17.5 dB/K

**Polarization:** Circular, with remote switching option

**Mounting:** Available pole mount or universal wall mount

### OUTDOOR ENVIRONMENT

**Power:** Supplied by IDU on IFL coax, 50 W max

**Ambient Temperature:** -40° to +55° C (up to +80° C survival)

**Humidity:** 0 to 100% (condensing)

**Rain:** < 100mm/hr

**Wind:** 45 mph

### REGULATORY

**Safety:** UL 60950, EN 60950, CB Scheme

**EMC:** FCC CFR 47 Part 25.202, Part 15, Part 25.138, ETSI EN 301 459

**RoHS:** Compliant to RoHS Directive 2002/95/EC

**REACH:** Compliant to REACH Directive

### PHYSICAL

**Reflector Size:** 77 x 72 cm

**Weight:** 15.2 kg (33.5 lbs) with transceiver and universal wall mount

### INTER-FACILITY LINK (IFL) CABLE

**Type:** RG-6, 75 Ohm

**Connector:** F (male)

**Length (max):** 60 m

Specifications Subject to Change



## CONTACT

TEL +1.678.924.2880 FAX +1.678.924.2480

EMAIL [vsatsales@viasat.com](mailto:vsatsales@viasat.com)

WEB [viasat.com/broadband-satellite-networks/surfbeam](http://viasat.com/broadband-satellite-networks/surfbeam)

ATLANTA 1725 Breckinridge Plaza, Duluth, GA 30096  
TEL +1.678.924.2400 FAX +1.678.924.2480

BEIJING Lucky Tower Block B, Suite 1112, No. 3  
Dong San Huan Bei Lu, Beijing 100027, China  
TEL +86.10.6461.5761 FAX +86.10.6461.5754

NEW DELHI 601 New Delhi 611-A, JMD Pacific Square  
Sector 15, Part 2, NH #8 Gurgaon 122001 Haryana, India  
TEL +91.124.402.5200 FAX +91.124.402.5252

ROME Piazza del Popolo 18, 00187 Rome, Italy  
TEL +39.0636712432 FAX +39.0636712400

SAN DIEGO 6155 El Camino Real  
Carlsbad, CA 92009  
TEL +1.760.476.2200 FAX +1.760.929.3941

SYDNEY Unit 4/22 Narabang Way  
Belrose, NSW 2085, Australia  
TEL +61.2.9986.3888 FAX +61.2.9986.3899